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CACTUS AND SUCCULENT JOURNAL

Of the Cactus And Succulent Society Of America

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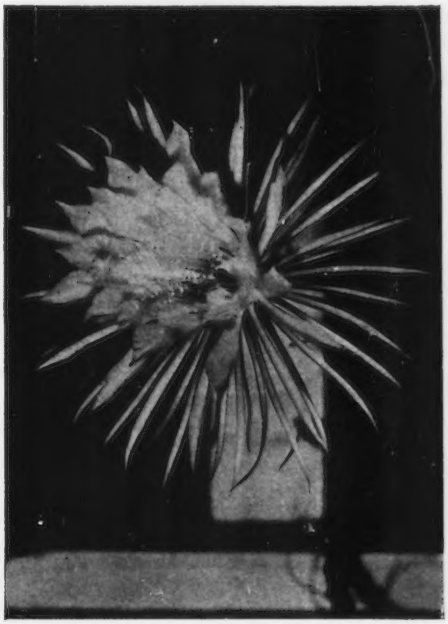

Selenicereus vagans

Courtesy Shiner Cactus Nursery

CACTUS AND SUCCULENT JOURNAL

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Vol. VIII AUGUST, 1936 No. 2

Collecting Succulents in Mexico

By ERIC WALTHER, *Botanist, Golden Gate Park*

PART IV.

After a good night's rest we made an early start next morning. Our road was still incompleted at this time, but is destined to become a part of the International Highway from Laredo, to Mexico City and beyond; and even now a stage-line is running, if somewhat spasmodically, from Mexico City as far as Valles in San Luis Potosi; one of its busses is shown in our photo No. 20.

Many Mexican autos, trucks and busses have seen prior service in the U. S., so that frequent breakdowns are the order of the day. Our photo was taken while the stage was having a new cylinder-head gasket installed, in the surprisingly brief time of less than 30 minutes. Piled on the rooftop may be seen a load of mailbags, for this is a post-coach, on a regular mail-route, which did not prevent our having to turn back for recovery of one bag that had fallen off the roof. This highway is bound to become familiar to American tourists and the country traversed is worthy of a more leisurely survey. Grades and curves are planned on the most modern lines, even if sometimes they take ones breath away. One of our drivers evidently was a very daring young man, and bound to prove this to his girl-friend who was along for a ride. The manner in which he raced down the often steep grades and around sharp curves was alarming, especially as nothing intervened between the edge of the road and a steep drop frequently over 1,000 feet down and drew protests not only from the screaming tires, but occasionally headshakes from even the conductor, and actually made some of the passengers turn green. One Indian refused to ride any further at the next stop, and we must confess to a greater thrill on this ride than any we experienced on the entire aerial journey to and from Mexico City of 3500 miles.

On leaving Zimapan our road continues to ascend, through scenery enlivened by the picturesque habited *Pinus cembroides*, one of the *Piñon* or nut-pines not unknown in cultivation in California; and finally reaches an altitude of nearly 9,000 feet, the highest section of the entire stretch between Laredo and Mexico City. The high elevation carries with it greater humidity, as is shown by the vegetation, the latters components, as Pines, Oaks, Madrones, showing great resemblance to parts of California. This early in the day all is still shrouded in a dense, chill, dripping fog, our photo No. 19 shows this just beginning to lift in the afternoon. In November, 1935, the date of our visit, this stretch of road was still unfinished, just having been rough-graded, and progress was therefore slow. Finally we arrive at our stop, a place called San Vicente, but this is nothing more than a couple

NEXT MEETING

Annual Picnic Meeting, 11 a. m. to 2 p. m., Sunday, August 23rd, at the old historic Bixby Ranch will be furnished. From 2 to 5 other fine gardens will be visited. We always have a good time at Home, Long Beach. There will be interesting surprise features. Bring a friend and your lunch. Coffee Bixby's, so do not miss it.

The Bixby Ranch Home is located between Anaheim Road and East Seventh Street, a half mile east of Recreation Park, Long Beach.

SEPTEMBER MEETING

At Past President Adams' Arroyo Seco Garden, South Pasadena, Afternoon and evening, September 20th. Picnic supper.

19. Last remnants of fog lifting from wooded mountains on Laredo Road. 20. Auto-stage on Laredo Road. 21. Farm-yard in village of Encarnacion. 22. Single flower of *E. subrigida,* laid open by removal of 3 petals, to show red nectaries. (app. x 1.7). 23. *E. subrigida* and another species, growing together in Canada de los Ajunctos. 24. Partner Sr. Rudorff and guide Ladislao celebrating our success.

of most primitive shacks at the roadside, and the beginning of the trail to Encarnacion, our destination. A steep, breath-taking climb up a badly eroded path brings us to the summit, and here, in the clefts of the outcropping rocks, we soon find the *Echeveria,* the same species (*E. elatior?*) we collected the previous season near Puebla Nuevo. Nothing else is in sight, and we are about to turn back, when a volunteer-guide appears, claiming to know where there is still another, different *Echeveria.* His name is Ladislao Salinas, a freelance miner, the region being famous for its silver and iron-deposits. Downhill, over trails dripping wet from the fog, we reach the village of Encarnacion, unusually neat and clean, (see our photo No. 21). On one of the walls, visible in the foreground of our picture, grew the *Echeveria* in question; we certainly were surprised to find this here, and cultivated at that. It was our old friend *E. subrigida* in full flower, the last thing we would have expected here. We, of course, bargained for a plant to take home, but were not permitted to pay for this, the lady-of-the-house evidently feeling flattered that strangers from such a distance should come to see her pet-plant.

However, the question now was, did this species really occur wild in this region, or was it found solely in cultivation? Our guide claimed to know where it really grew wild, and offered to take us there, about half-an-hour distant. We had had some annoying experiences with Mexican estimates of time and distances, so we warned our guide Ladislao that he would receive not one centavo of pay if we should miss connections with the return stage. As a result there now ensued the most hectic hike, up hill and down, over the merest trace of a trail. The humidity, near the saturation-point, soon had us sweating from every pore, even if the temperature continued rather chilly.

Arriving at our destination, the "Canada de los Ajuntos," meaning ("the valley of the junction," from the confluence of two streams), we were shown some low cliffs as the habitat of our plant, and were unable to see anything at first but an *Agave* of the Section *Littaea.* Now Echeveria's are frequently called "little maguey's" here, "Maguey" being the vernacular name for many Agaves, so that only close search restored our faith in friend Ladislao, the *Echeveria* really resembling an *Agave* most remarkably. *Echeveria subrigida* was most assuredly wild here, as was testified to by the numerous seedlings. It was just past blooming; the scapes gathered yielded an abundance of seed, now germinated here in San Francisco, where numerous plants are available. The real discovery, though, was of the occurence, near this species, of still another, growing and apparently flowering in the closest proximity with it. Of this, too, seed was collected and may yet prove the possibility of natural hybridization.

A celebration was now in order, since success had been attained. Our partner's digestion being on strike, we were compelled to personally dispose of two bottles of the inevitable beer, friend Rudorff merely putting on an act in posing for the camera (No. 24). On his right may be seen the flower-spikes of the Mexican "Cedronella," *Brittonastrum mexicanum,* reeking of that wellknown volatile oil, the standard repellent for Mosquitoe's.

Echeveria subrigida, first found by us last season at Tultenango Canon, its type-locality, is remarkable for several reasons. While its tall inflorescence, of numerous branches, clearly shows its relationship with our Series *Gibbiflorae,* its systematic position is by no means certain, as the sessile leaves are densely crowded in always stemless rosettes. The flowers are among the largest in the genus, exceeded only by those of *E.* (*Oliveranthus*) *harmsii;* and are further noteworthy by reason of the deep crimson color of the nectaries. Our photo No. 22 clearly shows these dark honey-glands, 3 petals having been removed. To the synonymy of *E. subrigida,* as already told last year, belongs *E. palmeri* Rose from San Luis Potosi; as does also *E. angusta* of von Poellnitz. This last was only recently named from cultivated plants, grown from seed gathered in Mexico for Mrs. Winter of Frankfurt, its exact locality being unknown. Plants raised from this same seed, flowering in the collection of Victor Reiter, Jr., yielded the flower here pictured, and do not differ from typical *E. subrigida.* While occasionally having fewer flowers to the branch, a similar reduction in number of flowers was seen at Tultenango too, and hence is not a sufficient distinction for keeping up the species. *E. gigantea* Hort., distributed under this name by Sr. Schmoll of Cadereyta, is also identical with *E. subrigida,* whereas *E. gigantea* Rose & Purpus, from Southern Puebla, is entirely different.

It is only after careful comparison of our living, cultivated plants with the herbarium-types, and finally with the living plants in their native habitat, at the various type-localities, that anyone may presume to speak with finality on questions of identity, synonymy, etc.; which is the real reason for our Mexican excursions.

Having found what we sought, came time to hurry back to the highway to catch our stage. Another half hour of breathless rushing brought us, soaked to the skin, back onto the road, exactly

on the dot if our watch was correct, but no stage was to be seen. Ensued a long wait, after paying off our guide, during which we discovered the purpose of the afore-mentioned shacks. These served to peddle "Mescal" to road-gangs; and most welcome did this prove to keep us from getting pneumonia or worse while waiting in the chill wind after our previous exertion. But no stage appeared, even after waiting over an hour, so that we finally caught a ride home on a truck, only to arrive just too late for the connecting stage to Mexico City. There followed some unpleasant experiences with first, a local taxi-brigand, and then with a socalled "long-distance" telephone by our partner, who was uneasy over the delay and wanted to relieve the worry of his family. However, even after the message was transmitted, by vocal relay, it arrived too garbled to be intelligible. These small, Mexican towns may be romantic and picturesque, and while judging conditions by making comparisons with the U. S. would be manifestly unfair, it remains a fact that everything is at least 50 years behind the times, excepting, of course, such improvements as radio, electric light, auto's, etc. Regarding the latter, our stage finally arrived at two in the morning, having been held up by another landslide between Jacala and Tamazunchale. This is the most difficult piece of construction of the whole route, and is responsible for the repeated delay of the official opening. We had to spend another night in Zimapan, finally getting back around noon the next day.

(*To Be Concluded*)

Growing Instructions

Mr. Albert Krejci of California Cactus Gardens, Van Nuys, California, briefly states his cultural advice:

Good drainage is always essential. Give plenty of light, but protect your plants from direct burning sunlight in summer time. Don't allow your pots to dry up when the plants are growing. Water sparingly when they are resting or dormant. For planting use a mixture of one-third coarse sand, one-third of fine old screened leaf mold, and one-third of good garden or potting soil. Add traces of lime (old mortar, etc.) and charcoal. With this mixture fill the pot up to one inch, more or less; over this mixture put a layer of sand and plant. Water very carefully until your plants get established and show signs of active growth.

For propagation by cutting: Plant your cuttings in clean sand, keep in shade and in case of Crassulas, Asclepiads and Mesembs of more succulent types do not water until your cuttings begin to root.

After five years a reader has found the proper soil mixture. Year after year unmixed soil appeared to be in perfect condition without any additions and always with the same results—the soil packed so hard that the roots could get neither air nor water. The mixture that seems suitable for almost all plants seems to be two-third rich decomposed leaf mold and one-third coarse sand (not screened finer than through one-fourth inch mesh). By plunging the pots during the hot summer, giving partial shade to those requiring it, and spraying weekly with an oil spray, the plants will grow until fall when water should be withheld until they are in condition for the dormant season and cold weather.

A *Euphorbia obesa* refused to grow until one day a fellow member pulled the plant out by the roots exclaiming "Nematode," there were no Nematodes, but by loosening the soil the plant immediately started to grow. Seedlings "stand still" unless re-potted occasionally. The thory is not to disturb the hair roots, yet experience proves that roots need loose soil and perhaps new plant food made available by repotting even in the same soil. Of course it is advisable to change the soil.

If the soil is porous, plants will take a weekly watering during the summer. The next season plant-food or fertilizer should be added to those which are not to be repotted; flowers should result.

EDITOR'S NOTE

The replies to the questionnaire in last month's Journal are most encouraging and it seems assured that the reprinting of Britton and Rose is definite. We can only assume responsibility to these who answer the questions mailed with the July issue. You do not obligate yourself unless the price is satisfactory. The cost depends upon the number of prospective purchasers and will be announced by letter to all who have answered the questionnaire. Mail yours now if you have not already done so.

Scott E. Haselton.

G. A. Frick says, "Pronounce this one if you will, TLATOCNOCHTLI. No, it is not a new death dealing chemical used in warfare. It's the name the Aztecs used for Opuntia."

THE STAPELIEAE

This is the last opportunity for you to obtain this book on Stapelias by Alain White and Boyd L. Sloane. Less than 50 copies remain from this edition which will never be republished in this well illustrated condensed form. Reserve a copy now at the original price of $3.00. Postage 30 cents.

Address: CACTUS JOURNAL

WHAT GROWS WHERE

Cacti Listed in Accordance With Their Geographical Origin

Compiled by Anne Smith, Santa Barbara, Calif.

TEXAS

OPUNTIEAE

OPUNTIA

SUBGENUS 1. CYLINDROPUNTIA

Leptocaules Series

O. kleiniae
Type Locality: In Mexico.
Distribution: Texas to central Mexico.

Thurberianae Series

O. davisii
Type Locality: Upper Canadian river, about Tucumcari Hills, near the Llano Estacado, Texas.

Imbricatae Series

O. imbricata
Type Locality: Unknown; introduced into England by Loddiges in 1820.
Distribution: Central Colorado to Texas, New Mexico, and central Mexico.

O. vexans Griffiths, Rep. Mo. Bot. Gard. 22: 28. 1912.
Type Locality: Webb County, Texas.

Clavatae Series

O. schottii
Type Locality: Arid soil near the mouth of the San Pedro and Pecos, western Texas.
Distribution: Southern and western Texas and northern Mexico.

O. grahamii
Type Locality: Near El Paso, Texas.
Distribution: Western Texas, New Mexico, and adjacent parts of Mexico.

SUBGENUS 3. PLATYOPUNTIA

Curassavicae Series

O. nemoralis
Type Locality: Longview, Texas.
Distribution: Pine woods and fields about Longview, Texas.

Basilares Series

O. rufida
Type Locality: About Presidio del Norte, on the Rio Grande.
Distribution: Texas and northern Mexico.

Tortispinae Series

O. allairei
Type Locality: Mouth of Trinity River, Texas.
Distribution: Southern Texas and western Louisiana.

O. grandiflora
Type Locality: On the Brazos, Texas.
Distribution: Eastern Texas.

O. macrorhiza
Type Locality: Rocky places on the Upper Guadalupe, Texas.
Distribution: Missouri and Kansas to Texas.

O. xanthoglochia Griffiths, Rep. Mo. Bot. Gard. 21: 166. 1910.
Type Locality: Near Milano, Texas.

O. tortispina
Type Locality: On the Camanchica Plains near the Canadian River.
Distribution: Wisconsin to South Dakota, Texas, Kansas, Colorado, and New Mexico.

O. fuscoatra
Type Locality: Sterile places of prairies west of Houston, Texas.
Distribution: Eastern Texas.

O. macateei
Type Locality: Not cited.
Distribution: Collected by W. L. MacAtee at Rockport, Texas.

Strigiles Series

O. strigil
Type Locality: In crevices of limestone rock, between the Pecos River and El Paso, Texas.
Distribution: Texas.

Setispinae Series

O. ballii
Type Locality: Pecos, Reeves County, Texas.
Distribution: Western Texas.

O. pottsii
Type Locality: Near Chihuahua City, Mexico.
Distribution: Central Chihuahua, Mexico, to Texas and New Mexico.

O. mackensenii
Type Locality: Near Kerrville, Texas.
Distribution: Kerr County, Texas.

O. tenuispina
Type Locality: Sands hills near El Paso, Texas.
Distribution: Southwestern Texas and adjacent parts of Mexico and New Mexico, apparently extending to Arizona.

Phaeacanthae Series

O. macrocentra
Type Locality: Sand hills on the Rio Grande near El Paso, Texas.
Distribution: Western Texas to Eastern Arizona and Chihuahua, Mexico.

O. tardospina
Type Locality: Near Lampasas, Texas.
Distribution: Eastern Texas.

O. atrispina
Type Locality: Near Devil's River, Texas.
Distribution: Type locality and vicinity.

O. gregoriana Griffiths, Rep. Mo. Bot. Gard. 22: 26. 1912.
Type Locality: El Paso, Texas.
Distribution: Texas.

O. phaeacantha
Type Locality: About Santa Fe and on the Rio Grande, New Mexico.
Distribution: Texas to Arizona and Chihuahua, Mexico.

O. engelmannii
Type Locality: From El Paso to Chihuahua, Mexico.
Distribution: Chihuahua, Durango, Sonora, Mexico, Arizona, New Mexico, and Texas.

Scheerianae Series

O. diversispina Griffiths, Bull. Torr. Club 46: 197. 1919.
Type Locality: Not stated.
Distribution: Grown at Brownsville, Texas.

Dillenianae Series

O. stricta
Type Locality: Not given.
Distribution: Western Cuba; Florida to southern Texas.

O. linguiformis
Type Locality: Near San Antonio, Texas.
Distribution: Southern Texas, in the vicinity of San Antonio.

O. aciculata
Type Locality: Near Laredo, Texas.
Distribution: On high gravelly ground at type locality and vicinity.

O. lindheimeri
Type Locality: About New Braunfels, Texas.
Distribution: Southwestern Louisiana, southeastern Texas, and Tamaulipas, Mexico.

O. bentonii Griffiths, Rep. Mo .Bot. Gard. 22: 25. 1912.
Type Locality: Near McClenny, Florida.
Distribution: From Fernandina, Florida, to the mouth of the Brazos, southwest Louisiana and Texas.

O. alta Griffiths. Rep. Mo. Bot. Gard. 21: 165. 1910.
Type Locality: Near Brownsville, Texas.
Distribution: Texas.

O. cacanapa Griffiths & Hare, New Mexico Agric. Exp. Stat. Bull. 60: 47. 1906.
Type Locality: Near Encinal, Texas.
Distribution: Not stated.

O. cyanella Griffiths, Rep. Mo. Bot. Gard. 22: 30. 1912.
Type Locality: Loma Alta, Texas.
Distribution: Throughout the delta region of the Rio Grande, Texas.

O. deltica Griffiths, Bull. Torr. Club 43: 84. 1916.
Type Locality: Near Brownsville, Texas.
Distribution: Throughout delta region of the Rio Grande.

O. flexospina Griffiths, Bull. Torr. Club 43: 87. 1916.
Type Locality: Near Laredo, Texas.
Distribution: Texas.

O. gilvoalbo Griffiths, Rep. Mo. Bot. Gard. 22: 35. 1912.
Type Locality: La Tule, Texas.
Distribution: In brushy, low elevations in the salt marshes of the delta of the Rio Grande, Texas.

O. gomei Griffiths, Rep. Mo. Bot. Gard. 21: 167. 1910.
Type Locality: Near Brownsville, Texas.
Distribution: Lower edges of the slight elevations in the delta of the Rio Grande, Texas.

O. ellisiana Griffiths, Rep. Mo. Bot. Gard. 21: 170. 1910.
Type Locaity: Not stated. Common in gardens at Corpus Christi and Brownsville, Texas.

O. ferraginispina Griffiths, Rep. Mo. Bot. Gard. 19: 267. 1908.
Type Locality: Near San Antonio, Texas.
Distribution: Texas.

O. laxiflora Griffiths, Bull. Torr. Club 43: 87. 1916.
Type Locality: Texas, near Loma Alta near Brownsville.
Distribution: Texas.

O. pyrocarpa Griffiths, Bull. Torr. Club 43: 90. 1916.
Type Locality: Marble Falls, Texas.

O. sinclairii Griffiths, Rep. Mo. Bot. Gard. 21: 165. 1910.
Type Locality: Near San Antonio, Texas.

O. subarmata Griffiths, Rep. Mo. Bot. Gard. 21: 94. 1910.
Type Locality: Near Devil's River, Texas.

O. texana Griffiths, Rep. Mo. Bot. Gard. 20: 92. 1909.
Type Locality: Near San Antonio, Texas.

O. tricolor Griffiths, Rep. Mo. Bot. Gard. 20: 85. 1909.
Type Locality: Near Laredo, Texas.

O. anahuacensis
Type Locality: Anahuac, Texas.
Distribution: Known only from the type locality, at the mouth of Trinity River, eastern Texas.

Polyacanthae Series

O. fragilis
Type Locality: "From the Mandans to the mountains, in sterile but moist situations."
Distribution: Wisconsin to central Kansas and northwestern Texas, westward to Arizona, Oregan, Washington, and British Columbia.

O. arenaria
Type Locality: Sandy bottoms of the Rio Grande near El Paso.
Distribution: Texas and southern New Mexico.

O. trichophora
Type Locality: Mountains near Albuquerque, New Mexico.
Distribution: New Mexico, Texas, and Oklahoma.

O. polyacantha
Type Locality: Arid situations on the plains of the Missouri.
Distribution: North Dakota to Nebraska, Texas, and Arizona to Utah, Washington, and Alberta.

CEREEAE

SUBTRIBE CEREANAE

WILCOXIA

W. poselgeri
Type Locality: Texas.
Distribution: Southern Texas and Coahuila.

PENIOCEREUS

P. greggii
Type Locality: Near Chihuahua, Mexico.
Distribution: Western Texas, southern New Mexico and Arizona to Sonora, Chihuahua. and Zacatecas.

ACANTHOCEREUS

A. pentagonus
Type Locality: America, but no definite locality cited.
Distribution: Keys of southern Florida; coast of Texas, south along the eastern coast of Mexico to Guatemala and Panama; the coasts of Columbia and Venezuela and Guadeloupe. Introduced on St. Thomas and St. Croix. Recorded from Cuba.

EDITOR'S NOTE: The balance of Texas and the states of Utah, Virginia, Washington, Wisconsin and Wyoming will complete this valued series. The following 8 pages are from Vol. II, "The Cactaceae," by Britton and Rose.

Anyone having sound first-hand knowledge of the flat-lobed Opuntias of extreme southern Utah should communicate with R. H. Peebles, Sacaton, Arizona.

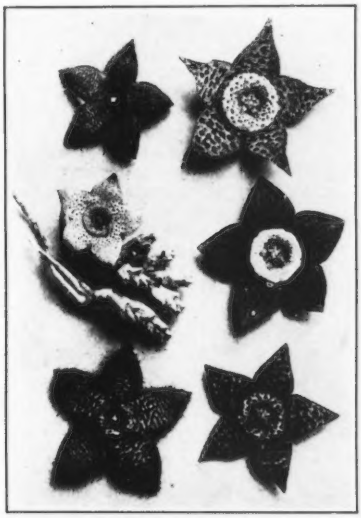
THE CACTUS AND ITS HOME—By Forrest Shreve. Written by a member of the society who is in charge of The Desert Laboratory of the Carnegie Institution. Describes what a cactus is, how it is constructed, names, tribes, families, cultivation and distribution. Based on scientific investigation, a great many questions are answered. 45 interesting illustrations, $2.50.

CALIFORNIA CACTUS—By E. M. Baxter. Describes all of the species of California with 85 illustrations. Compiled after 10 years of study. Common names, culture and locations, $1.50, Cloth $2.50. Postage 15c, plus sales tax in California.

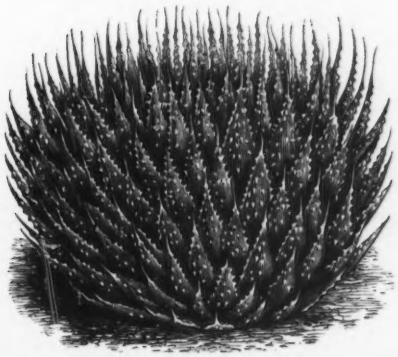
KAKTUS ABC, by Curt Backeberg and F. M. Knuth, 432 pages fully illustrated. Many new species and genera. Written in Danish, but is a necessity for every cactus library. The lists show 500 more species than were recognized by Britton and Rose. Heavy paper cover $4.00.

New Catalog

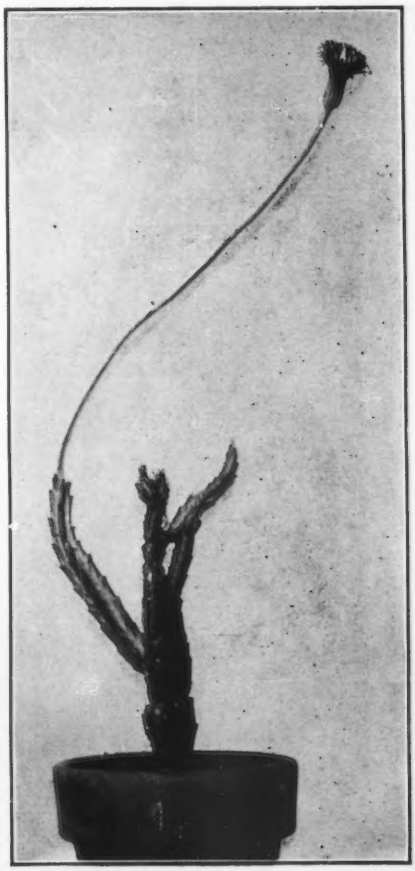
Shiner Cactus Nursery, 2202 Market St., Laredo, Texas. 48 pages 11x8½ with 201 illustrations. Arranged accroding to Britton and Rose, this book contains valued information for the amateur. Price 50c. The following two pages are composed of illustrations from this catalog.



Interesting forms of Stapelia flowers.

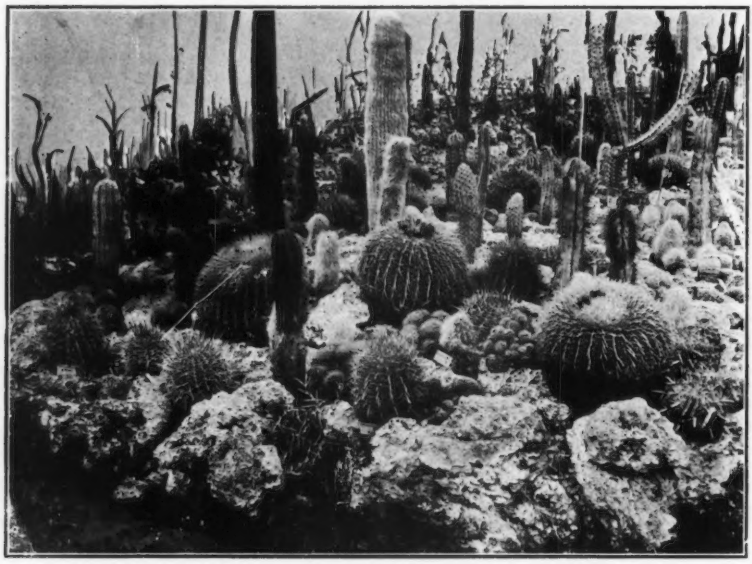


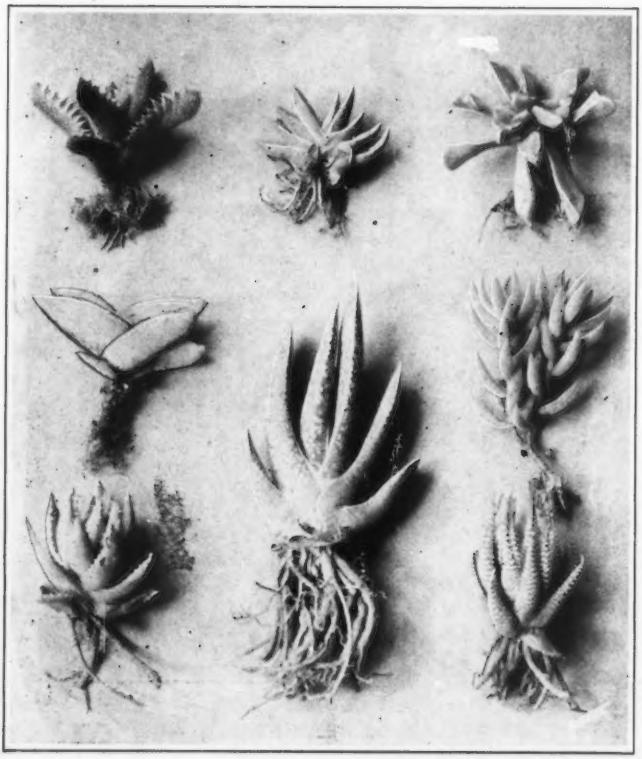
Aloe aristata from one of Blanc's original wood-cuts.



Kleinia stapeliaeformis is a colorful succulent that should be in every garden. Easy to grow and flowers readily with a most unusually long peduncle.

Rockery of large specimens growing under glass in eastern U. S. Perhaps a part of Blanc's old collection of the late 90's.





African succulents. (Top to bottom) FIRST ROW: *Faucaria tigrina, Crassula falcata, Aloe brevifolia.* SECOND ROW: Two hybrid Gasterias. THIRD ROW: *Rhombophyllum rhomboideum, Crassula trachysantha, Haworthia attenuata.*

Glossary of Succulent Terms

A glossary of botanical terms and pronouncing vocabulary of generic and specific names used in conection with xerophytic plants.

By WM. TAYLOR MARSHALL
Drawing by Georgia Banks and Margaret Kincher

PART IV

bellidiflorus: (bĕl′-ĭd-ĭ-flŏr′-ŭs) with beautiful flowers. S.

Bergeranthus: (bĕr-gĕr-ăn′-thŭs) meaning Berger's flower; a genus of plants in the family Aizoaceae.

Bergerocactus (bĕr-gĕr-ō-kăk′-tŭs) a genus of cacti named in honor of Alwin Berger.

berry: (bĕr′-ē) a simple fruit, usually small, having a fleshy pericarp.

bi: (bī) a suffix meaning twice.

bicolor: (bī′-kŭl′-ŏr) variegated; of two colors S.

bicornis: (bī-kŏrn′-ŭs) two horned. S.

bicrenate: (bī-crē′-nāt) having two crenatures or rounded teeth.

biennial: (bī-ĕn′ī-ăl) a plant that requires two years or more to complete its life cycle.

biflorus (bī-flŏr′-ŭs) two flowered.

bifid (bī′-fĭd) twice cleft: divided half way in two.

bifurcate: (bī-fŭr′-kāt) two forked.

biglandulosa: (bī-glăn-dŭ-lō′-să) having two glands. S.

Bilabiate leaf

bilabiate: (bī-lāb′-ī-āt) two lipped.

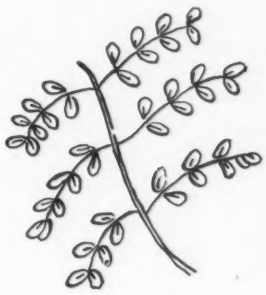
bimus: (bī′-mŭs) lasting for two years. S.

binate: (bī′-nāt) a simple leaf nearly divided in two.

Binghamia: (bĭng-hăm′-ĭ-ă) a genus of cacti named in honor of Hiram Bingham of the Yale Expedition to Peru, 1914-15.

binominal-nomenclature: the system originated by Linnaeus, whereby a plant receives two names; that of the genus to which it belongs and that of the species itself.

bipinnate: (bī-pĭn′-nāt) when both primary and secondary parts of the leaf are pinnate.



Bipinnate leaf

bipinnatifid: (bī-pĭ-nāt′-ĭ-fĭd) having the primary division as of a pinnate leaflet again cleft into segments or lobes.

Bipinnatifid

bisnaga: (bĭs-nä′-gä) also Visnaga; a Spanish name for a "Barrel Cactus."

bisnaguita: (bĭs-nä-gī′-tä) or Visnaguita; a "Little Barrel;" applied to plants of the genera Mamillaria, Echinocereus, etc.

bispinosus: (bī-spī-nō′-sŭs) with two spines.

blotched: (blŏcht) color irregularly disposed in patches.

blunt: (blŭnt) ending in a rounded form, neither tapering to a point nor abruptly cut off.

bocasana: (bō-kă-să′-nă) from the Bocas Mountains. S.

bolaris: (bō-lăr′-ĭs) dark red; brick colored. S.

bombycinus: (bŏm-bē-sē′-nŭs) like a silk worm. S.

bordered: (bor′-dĕrd) having a margin of color distinct from the rest.

Borzicactus: (bor′-sī-kăk′-tŭs) a genus of cacti named in honor of Prof. Antonio Borzi, Director of the Botanical Garden of Palermo, Italy.

botanic: (bō-tăn′-ĭc) pertaining to the knowledge of plants.

botanist: (bŏt′-ă-nĭst) a student of plant life in any of its departments.

botuliform: (bŏt′ū-lī-fŏrm) shaped like a sausage.

brachy: (brăk′-ē) a prefix meaning short.

brachyanthus: (brăk′-ē-ăn′-thŭs) having short flowers. S.

brachyarthrus: (brăk′-ē-är′-thrŭs) having short branches. S.

Brachycereus: (brăk′-ē-sē′-rē-ŭs) "short Cereus;" a monotypic genus of cacti from the Galapagos Islands.

brachyclada: (brăk′-ē-klăd′-ă) short branched. S.

brachypetalus: (brăk′-ē-pĕt′-ă-lŭs) with short petals. S.

Bracts

bract: (brăkt) a leaf like or scale like organ subtending a flower or aggregation of flowers; a modified inflorescence leaf.

bracteole: (brăk′-tē-ōl) a small bracht.

bracteole-succulents: those plants which loose their leaves by drying, but whose bracteoles become enlarged and succulent.

bracteosum: (brăk′-tē-ō′-sŭm) having conspicuous or numerous bracts. S.

branch: (brănch) a division of the stem or axis of growth.

brasiliensis: (brăs-ĭl′-ĭ-ĕn-sĭs) from Brazil. S.

Brasiliopuntia: (brăs′-ĭl-ĭ-ō-pŭn′-shă) a subtribe of Opuntia according to the Backeberg classification of Cactaceae.

brevi: (brĕ′-vī) a prefix meaning short.

brevicaulis: (brĕ′-vī-käw′-lĭs) with a short stem. S.

breviflorus: (brĕ′-vī-flŏr′-ŭs) with short flowers. S.

brevihamatus (brĕ′-vī-hă-mā′-tŭs) having short hooks. S.

brevimamma: (brĕ′-vī-mă′-mă) having short tubercles. S.

Bridgesia: (brĭj′-ĕs-ē-ă) a genus of South American cacti, newly erected by Curt Backeberg, of which Echinocactus villosus is the type.

Bromeliad: (brō-mēl-ĭ-ăd) a plant of the family Bromeliaceae, which includes the wild pineapple.

Bristles

bristles: (brĭs-ĕls) hair like spines.

Browningia: (brŏwn-ĭn′-gĭ-ă) a genus of cacti from Peru and Chili, named in honor of W. E. Browning of Santiago, Chili.

brunneus: (brōō-nē′-ŭs) brownish in color.

bulb: (bŭlb) a leaf bud composed of fleshy scales, usually subterranean, not a root.

Bulbine: (bŭl-bī′-ne) a genus of more or less succulent plants of the family Liliaceae.

bulbose: (bŭl′-bōs) inflated at the base.

Byrnesia: (bŭr-nē′-sĭ-ă) a genus of succulent plants in the family Crassulaceae.

bulbispina: (bŭlb′-ĭ-spīn′-ă) having spines with swollen bases. S.

Bryophyllum: (brī-ō-fĭl′-ŭm) a genus of plants near Kalanchoe in the family Crassulaceae.

C

cacainus: (kă-kā′-ĭn-ŭs) chocolate brown. S.

Cactaceae: (kăk-tā′-sē-ē) a family of succulent plants; the only family in the Order Cactales; distinguished by seven characteristics as follows:

a. Bicotyledinous; having two seed leaves.
b. Perennials; living more than one year.
c. Fruit a one celled berry, without divisions.

d. Ovary of the flower below the insertion of the petals. (Epigynous).
e. Having areoles or spine cushions.
f. Caulocarpic; not dying after flowering.
g. Having numerous stamens.

cactiforme: (kăk′-tĭ-för′-mē) like a cactus in form S.

cactus: (kăk′-tŭs) plural cacti (kăk′-tē) or cactuses; the former is the preferred form. A plant of the family Cactaceae.

Cactus: (kăk′-tŭs) also a genus of the Cactaceae.

caducous: (kă-dū′-kŭs) very early deciduous; partly synonymous with fugacious.

caerulescent: (sē-rōō-lĕs′-sĕnt) verging toward blue. S.

caeruleus: (sē-rōō′-lē-ŭs) sky-blue. S.

caesius: (sē′-zī-ŭs) bluish gray. S.

caespitose or **cespitose:** (sĕs′-pĭ-tōs) growing in tufts.

Caespitulose or **cespitulose:** (sĕs′-pĭ-tŭ-lōs) somewhat tufted.

calandriniaefolia: (kăl′-ăn-drĭn-ĭ-ă-fō′-lĭ-ă) with leaves resembling those of a Calandrinia. S.

calathide: (kăl′-ă-thīd) the head of a Compositae; more particularly the involucre of the head.

calcarate: (kăl′-kă-rāt) furnished with a spur.

calcareous: (kălk′-ā-rē-ŭs) chalk-white in color; growing in chalky or limestone places.

calceolate: (kăl′-sē-ō-lāt) slipper like: having the form of a round toed shoe.

calceus: (kăl′-sē-ŭs) chalk-white.

Calyx closed

callianthus: (kăl′-lĭ-ăn′-thŭs) having beautiful flowers. S.

callus: (kăl′-ŭs) an abnormally thickened part; as the base of a cutting.

caloritropism: (kăl-ōr-ĭt′-rŏp-ĭsm) curviture produced by conducted heat.

calvous: (kăl′-vŭs) naked. S.

calycantha: (kăl-ē-kăn′-thă) having the sepals converted into petals or the corolla and staments inserted in the calyx.

calyx: (kā′-lĭks) plural calyces: (kăl′-ĭ-sēs) the outer series of the floral envelope; the sepals as a unit.

cambium: (kăm′-bĭ-ŭm) the thin mucilaginous cellular layer between the wood of a tree and the bast.

Campanulate flower

campanulate: (kăm-păn′-ŭ-lāt) bell-shaped.

campestris: (kăm-pĕs′-trĭs) growing in fields. S.

camptotropism: (kăm-tōt′-rōp-ĭsm) the tendency of a plant to resume the natural position if forced out of it.

camptotricha: (kămp-tōt′-rĭ-kă) with bent hairs. S.

campylacanthus: (kăm-pē-lă-kăn′-thŭs) with twisted spines. S.

cana: (kā′-nă) hoary, gray. S.

cancellate: (kăn′-sĕl-āt) chambered or cell like.

canescent: (kăn-ĕs′-cĕnt) growing gray or hoary.

candelaris: (kăn-dē-lăr′-ŭs) shaped like a candle. S.

candelabrum: (kăn′-dē-lā′-brŭm) resembling a candlestick with several branches. S.

candicans: (kănd′-ĭ-kănz) white, clear and shining. S.

candidus: (kănd′-ĭ-dŭs) white and shining; brilliant. S.

capillaceous: (kăp-ĭl-lā′-shŭs) slender, comparable with a hair.

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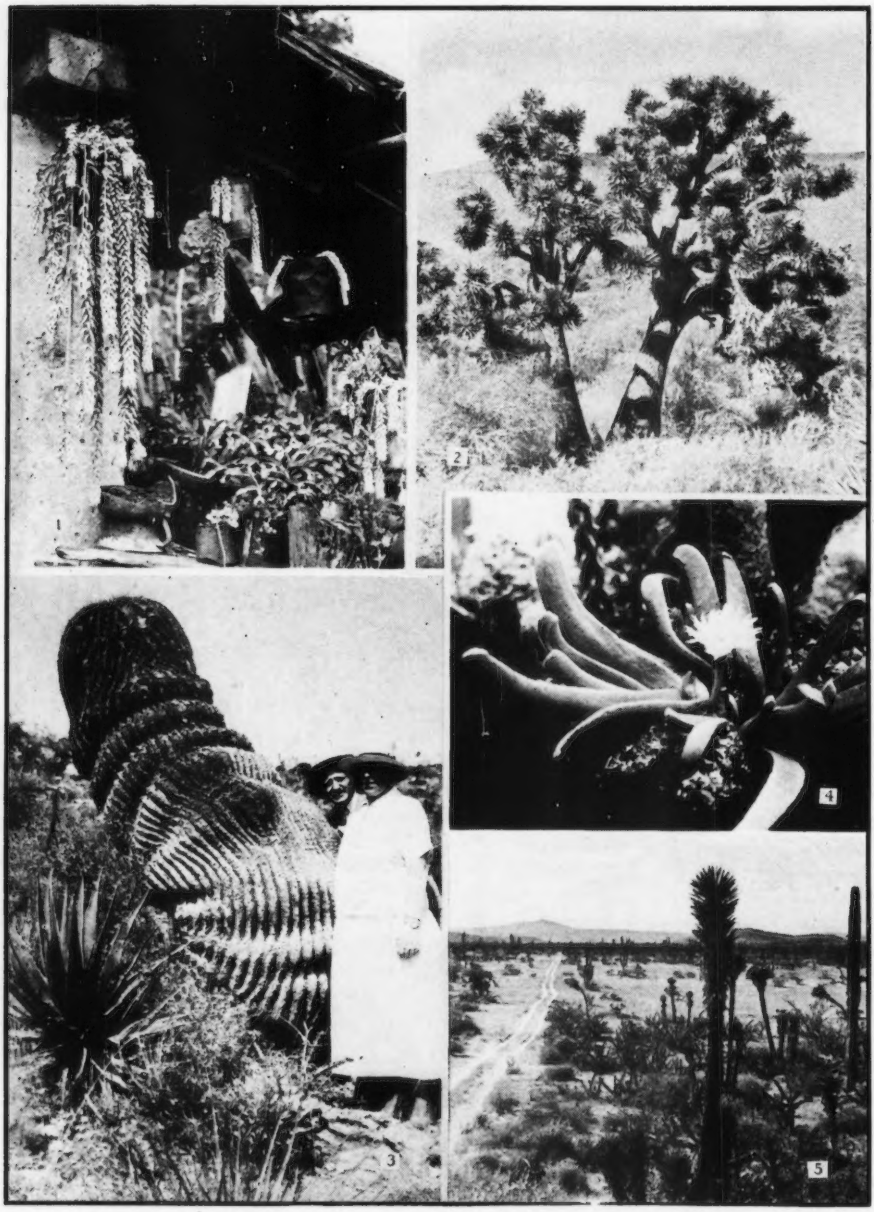
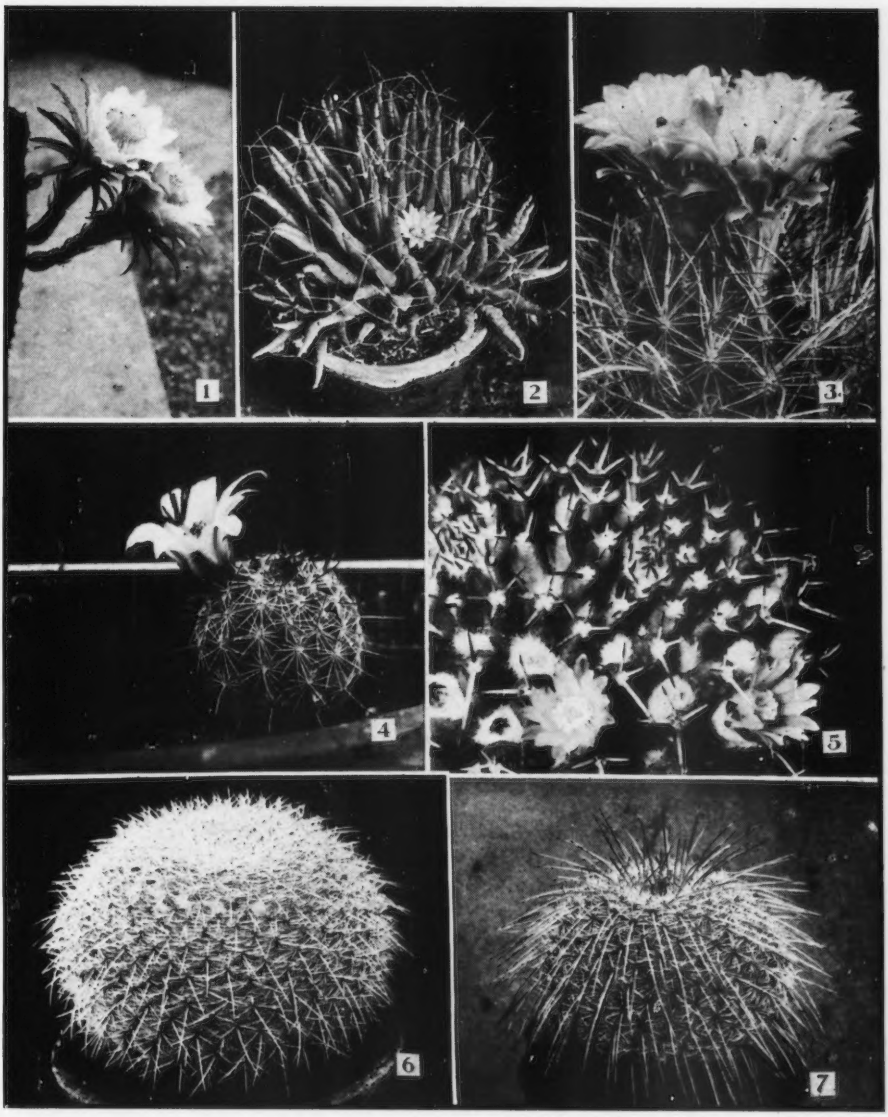


1. Cola de burro (Donkey's Tail) at Coatepec, near. Jalapa, Mexico. Photo by Eric Walther. 2. *Yucca valida* in Mesquitae, Lower California, Mexico. Photo by B. R. Lewis, Minn. 3. *Echinocactus ingens* as known by Ferdinand Schmoll, Mexico. Photo by Pedersen. 4. *Glottyphyllum linguiforme* flowering in the rock garden of Herman Tobusch, Chicago, III. 5. El Camino Real near Mesquital, Lower California as traveled by B. R. Lewis.



1. *Cereus jusberti* which is a hybrid between *Cereus* and *Echinopsis*. Garden of Miss Kate Walker, Santa Barbara, Calif. 2. *Neomammillaria camptotricha* from Ferdinand Schmoll, Mexico. 3. *Sclerocactus poliancistrus* from Herman Tobusch, Villa Park, Ill. 4. *Neomammillaria blossfeldiana* seven-eighth of an inch in diameter. Photo by Robert S. Woods, Azusa, California. 5. *Mammillaria fischeri* from Ferdinand Schmoll. Described by Pfeiffer, Allg. Gartenz, 1836. Was not changed from Mammillaria to Neomammillaria by B. & R., but given as a possible synonym for *Neomammillaria karwinskiana,* but our investigation shows that the seed is markedly different and there is a difference in the spine arrangement, which makes it still a valid species in our opinion. (Dr. R. T. Craig). 6. *"Mammillaria tiegeliana,* registered, but not published" according to Ferdinand Schmoll of Mexico, who discovered it. 7. *Mammillaria dietrichae* Teigel. Described in Moeller's Deutsche Gaertnerzeitung, 1931.

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